MARSHALL STAR

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'Employee Update' is Progress Report on Center Initiatives

Marshall Center employees were briefed on Monday by Center Director Dr. Wayne Littles on a variety of topics related to the center. The Employee Information Update, held in Morris Auditorium and shown on centerwide television, covered the current status of ISO 9000; the Project LIGHT center communications plan; a new informal employee suggestion plan; recent center organizational changes; and answers to questions that had been submitted by employees.

In addition, the update featured the presentation of length-of-service awards to those Marshall employees who have completed either 50, 40, 35 or 30 years of government service and as a closing "treat," included a showing of the music video "A Time for Courage," written and performed by Marshall employee Tina Swindell.

Littles highlighted areas from the communications teams of the Project LIGHT activity that he considered most important. A communications plan for the center has been developed by Jim Ellis and the LIGHT team leaders. Littles pointed to four primary areas in the plan — its goals and objectives, responsibilities, guiding principles and communication processes at Marshall.

"The goals and objectives," Littles said, "include four areas — to foster an environment that encourages communication; to emphasize the timely dissemination and exchange of information, to provide communications skills and to establish communication feedback mechanisms."

The communication process for the center is through several mechanisms, including employee updates, staff meetings, weekly notes, the Marshall Star and Daily Planet, the Inside Marshall intranet page and e-mail, Littles noted.

In response to one communication-related suggestion, Littles said he plans to hold employee updates on a more frequent basis in the future, doing so approximately every two months.

Sharing with employees the current status of the ISO 9000 quality initiative, Associate Director (Technical) Bob Schwinghamer said that ISO 9000 is on schedule toward registration in February 1998, and the quality manual and systems level procedures will be baselined this month. He also noted that 30 employees have been trained as lead auditors, 120 employees as audit team members and, to date, 90 per cent of center employees have received ISO 9000 basic training. He thanked the ISO team and all employees for their support to this important effort.

A new feature of the "Inside Marshall" intranet page, an informal suggestion program, was introduced by Project LIGHT Intranet Team Leader Jim Ellis. Called Innovative Dynamic Employee-Active Solutions," or IDEAS for short, the

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Jim Zwiener (right) of Marshall's Materials and Processes Laboratory explains a test fixture to Dr. Dan Mulville (left), NASA chief engineer; Sam Venneri, NASA chief technologist; Marshall S&E Director Sherm Jobe; and Greg Reck, deputy chief technologist. The test fixture will quantitatively measure the induced thrust from high energy laser irradiation in support of the ORION project whose objective is the de-orbit of space debris using a high energy laser. The group toured the center last week. ***Photo by Dennis Olive***

Workshop Seeks Benefits Through Focus on Regional Climate Change

by Kelly McFalls

Representatives from federal, state and local governments, including the Marshall Center and the Global Hudrology and Climate Center, universities and industry in the Southeast will meet in Nashville, Tenn., from June 25-27. They will begin a dialogue on how improved understanding of regional weather and climate changes could save lives, money and property.

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Parents to Bring Children on Thursday

Children of Marshall Center employees will get a first-hand look at their parents on the job when Marshall observes "Take Our Children to Work Day" Thursday. The day is designed for employees' children in grades 3 through 12.

Activities will include a program in Morris Auditorium beginning at 8:30 a.m., tours of Center facilities and time for children to spend with parents at work.

KSC Announces Appointments

Loren Shriver has been named Deputy Director of NASA's Kennedy Space Center for Launch and Payload Processing, effective Aug. 15, 1997, after the launch of STS-85. Shriver has been serving as Manager of Launch Integration for the Space Shuttle Program. In the interim period, he will begin assuming duties of his new position while assuring a smooth transition of his previous duties to his successor in the Space Shuttle Program.

At the same time, Kennedy Director Roy D. Bridges, Jr. also appointed James Jennings as Deputy Director for Business Operations, and JoAnn Morgan as Associate Director for Advanced Development and Shuttle Upgrades.

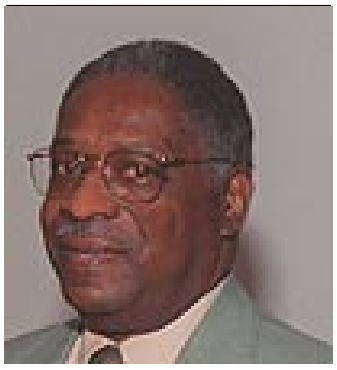
The appointment of Shriver completes Bridges' top management team. Together, they will assist the Director in strategic planning and work in partnership with directors of line organizations on customer requirements and mission execution.

Shriver will provide executive leadership, strategic planning and direction for Kennedy's Agency-assigned responsibilities as the Center of Excellence for Launch and Payload Processing Systems. This includes payload carriers, Space Shuttle processing and launch, and processing of payloads including International Space Station elements, and responsibilities assigned to the Center for expendable launch vehicles.

Jennings will be responsible for direction of Kennedy's institutional services and staff functions, including financial management, procurement, administration and human resources, legal services, information management and equal opportunity.

Morgan will provide leadership for the Center's Shuttle flight systems upgrades and for creating a customer-driven environment and new opportunities for the Kennedy team to participate in cutting-edge technology development and application.

Morgan was Kennedy's first female senior executive and the first selected to lead an operating division at Kennedy.



Marshall Center Director Dr. Wayne Littles (top photo) presents a 50-year length of service award to James Clark during the employee update Monday. Preston Hassler (bottom left) and Delano Hyter (bottom right) were recipients of 40-year length of service awards. Additionally, there were 11 recipients of 35-year awards and 15 recipients of 30-year awards. In all, Littles said, those being honored had accumulated a total of 975 years of government of service.

Photos by Dennis Olive

Briefings Set for Reflight of Marshall-Managed Microgravity Mission

The Marshall Microgravity Science Laboratory-1 team will lead NASA"s STS-94 pre-mission briefings on June 20. Mission Manager Teresa Vanhooser of the Flight Projects Office and Mission Scientist Dr. Michael Robinson of the space science laboratory will present an overiew of the mission science objectives and work accomplished to ready the Spacelab science experiments for the reflight opportunity.

Also, microgravity Research Program Manager Joel Kearns will join the spacelab management team to discuss the importance of the reflight to microgravity science investigators. MSL-1 is the last scheduled spacelab module mission.

The mission, originally flown in April as STS-83, was curtailed after four days due to a faulty fuel cell aboard Columbia. NASA decided to refly the mission, which is tentatively scheduled for launch on July 1.

A firm launch date will be set on June 19 by NASA managers following a Flight Readiness Review at Kennedy Space Center.

The briefing schedule includes a Microgravity Science Laboratory-1 science overview from Marshall at 9:30 a.m. CDT and a Mission Overview/Crew News Conference from Johnson at 1 p.m. CDT.

STS-94 Lead Flight Director Rob Kelso will be joined for that briefing by STS-94 Commander Jim Halsell and Payload Commander Janice Voss.

The briefings will be seen on NASA Television with question-and-answer capability for reporters at participating NASA centers.

NASA TV can be seen on GE-2, Transponder 9C, at 85 degrees West longitude, frequency 3880.0 MHz, audio 6.8 MHz.

Marshall Center Awards Local Company Pharmaceutical Contract

by Bob Thompson

The Marshall Center has awarded New Century Pharmaceuticals, Inc. of Huntsville a contract for space-based biotechnology research aimed at determining the structure of important protein molecules. Such structures are vital in developing more effective disease-fighting drugs, vaccines and medical treatments. The contract has an estimated value of $2 million during an anticipated period of performance of 16 months.

Developed for space-based microgravity research, NASA's biotechnology research program uses highly specialized X-ray technology and protein crystallization techniques to determine the atomic structures of enzymes which are targets for the development of new or improved therapeutics and vaccines. Obtaining suitable protein crystals of the targets is a limiting step. Improvements in the size and quality of protein crystals grown in microgravity can significantly expedite the structure determination and drug development process.

Through the analysis of a protein's crystal structure, researchers are able to better understand the protein's role in disease prevention, destruction and cure.

New Century Pharmaceuticals has teamed up with international research laboratories and pharmaceutical companies to apply recent improvements in microgravity research. Investigators utilize specialized hardware developed by New Century Pharmaceuticals scientists and Marshall engineers which provides unprecedented protein crystal growth sample capacity. In addition to studies involving fundamental biochemistry, past and future projects focus on specific aspects of several important problems in public health including AIDS, cancer and heart disease.

Research in microgravity, or near-weightlessness, is managed by the Microgravity Research Program Office at the Marshall Center.

The Microgravity Research Program sponsors experiments performed aboard the Space Shuttle and the Russian space station Mir. Also, the program is responsible for integration of microgravity science investigations aboard the International Space Station.

The experiments are scheduled to fly on four upcoming Space Shuttle missions.

NASA Spacelink Unveils New Look

NASA Spacelink, an electronic resource specifically developed for use by the educational community, has been redesigned to make it more effective for teachers and students. Spacelink now features text and graphical interfaces, a powerful new search engine, improved navigation capabilities, and other enhancements that deliver information more efficiently. While Spacelink's primary purpose is to connect educators and students to NASA information, services, and materials, anyone with access to the World Wide Web is welcome to visit the site: http://spacelink.nasa.gov

NASA Spacelink began operating in 1988 and has grown to become one of the most comprehensive sources of NASA information, services, and materials.

Bill Anderson, pre-college education officer at the Marshall Center, commented how "it has been gratifying over the years to watch Spacelink grow and become a valuable resource for educators throughout the world."

NASA Spacelink is an educational service offered by the Education Division at NASA Headquarters. Spacelink is maintained by the Education Programs Office at the Marshall Center in Huntsville and operational support is provided by the Information Systems Services Office at the Marshall Center.

Educators can access materials chosen specifically for their educational value and relevance, including science, mathematics, engineering and technology education lesson plans; information on NASA educational programs and services; current status reports on Agency projects and events; and news releases and broadcast schedules for NASA Television. Spacelink also provides rapid and easy access to the information contained on virtually all public NASA Web sites.

Vince Hueguele, EB52, helps Simmi Mandal of Grissom High School launch a model rocket as part of Explorer Post 2001. Looking on are Marshall Center Deputy Director Carolyn Griner and George Newby of the Education Programs Office. Explorer Post 2001 is a high school program which prepares students for the transition from school to work and gives them insight into NASA as a possible future vocation. ***Photo by Emmett Given***

NASA Scientist Details Surprise Findings on Celestial Jets

by Peter Cobun

Powerful beams or "jets" of radiation in our Milky Way Galaxy that turn on and off like a faucet are among intriguing phenomena discovered by scientists and detailed today at a national astronomy conference.

These jets of material are spewing from two black holes at velocities near the speed of light. The two jet-producing, nearby black holes represent one of the hottest new classes of celestial objects discovered in recent years.

Since the early part of the 20th century, astronomers and physicists have trained their telescopes to see jets in the far reaches of space. But just three years ago, researchers surprisingly found the jets lurking in the Milky Way. Undetected at one moment, then appearing the next, the jets eject vast amounts of material into nearby space.

Dr. Alan Harmon, an astrophysicist at the Marshall Center presented the findings of the NASA team to theAmerican Astronomical Society meeting at the Benton Convention Center in Winston-Salem, N.C.

For many years, astronomers have observed jets being fired at extremely high velocity away from the centers of galaxies millions of light years away. Scientists knew that deep in the nucleus of these galaxies, something works to accelerate particles to very high energy.

"The only way we know to supply that energy," said Harmon, "is from the immense gravitational well of a black hole" — a massive and extremely compact object, created from the collapse of a star or collection of stars.

A black hole has such a powerful gravitational force that not even light can escape from it.

But because of surrounding stars and dust, and their great distance from Earth, it is exceedingly difficult for astronomers to see into the center of a galaxy to learn the details of what goes on.

Astronomers needed a way to observe these mysterious jets at close range.

That opportunity came with the powerful telescope orbiting aboard NASA's Compton Gamma Ray Observatory, which is known as the Burst and Transient Source Experiment. That instrument, and the space-based Russian observatory Granat, just three years ago allowed astronomers to discover two X-ray sources "in our own galaxy — practically in the neighborhood — that were accelerating matter in the form of jets," said Harmon.

"The jets can be seen in radio telescopes as a string of bright 'blobs' that appear to move across the sky in a few hours. These sources do not represent the powerful central engine in the nucleus of a galaxy, but are a special breed of binary X-ray source which we knew little about until recently," the scientist said.

Harmon and the NASA team believe these jets emanate from the vicinity of a black hole with a mass of seven to 30-times the size of the Sun. The jets are thought to reside in a binary system, along with a low-mass star, from which the black hole accretes, or collects, matter.

The matter forms an accretion disk surrounding the black hole.

"An unusual thing about the jets is that they do not seem to be common to all black hole binaries," said Harmon, "or we probably would have known about them earlier.

"The other unusual thing, of course, is that whenever the X-ray source flares into a bright state, the jets become visible in the radio band. And, at other times, they are not seen at all. This transient production is puzzling, and is still not understood by theorists," Harmon said.

So scientists wonder: If a black hole binary can make jets occasionally, what are the conditions necessary for jets to be produced?

"The answer," Harmon believes, "may be in the accretion disk and surrounding regions. The trigger for jet production clearly seems to be connected to the appearance of X-rays and gamma rays. That tells us the material has been, or is flowing from the star into the accretion disk. Accreting material may be feeding the jets."

Researchers feel fortunate that the two X-ray sources discovered in the Milky Way remain active. The sources are monitored daily by a host of observatories.

BAMSI employees John Bolton (left) and Joe Cox clean the inside of the Space Station Element Transportation System (SSETS) in preparation for loading Node 1 of the International Space Station. The SSETS is being used to move the node from the manufacturing facility to Building 4755 will be loaded into the flight shipping container for the flight to Kennedy Space Center, Fla. Two huge Air Force C-5 transports will be used for the node shipping operation — one for the node itself and one for ground support equipment and support personnel. The node will depart Marshall on June 22. ***Photo by Emmett Given***

Gregory Cox of the Marshall Education Programs Office helps with a balloon launch during the Global Learning and Observations to Benefit the Environment (GLOBE) program teacher training workshop held at the Global Hydrology Center last week. ***Photo by Emmett Given***

Littles Holds Employee Update

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program offers employees an opportunity to submit suggestions electronically. IDEAS will be tried on a pilot basis, Ellis said, and the degree of response to the new feature will determine whether it is permanently adopted.

Littles answered a variety of questions that had been submitted in advance from employees. Topics included buyouts, job announcements and opportunities, reserved parking spaces, casual day attire, office automation and mail delivery.

Regarding early retirement incentives, Littles noted that NASA does have buyout authority. "We intend to make a request to Headquarters for a buyout and I fully expect the request to be honored," said Littles. "Our plan calls for three buyouts up through the year 2000."

Neil Rodgers of the Information Systems Services Office outlined some of the major milestones that will occur as part of the desktop computer outsourcing process that is being implemented NASA-wide.

A draft request for proposal, said Rodgers, is being prepared for August 1997 and a final request for proposals should be released in November of this year. "Based upon the projected contract award date, Marshall will probably implement the contract during the May 1999 timeframe, " he said.

Office automation, general purpose and engineering workstations will be covered by the desktop outsourcing contract said Rodgers. "All Marshall employees should prepare to have their workstations provided by the desktop outsourcing contractor," Rodgers added.

Climate Workshop Set

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Attendees at the Workshop on Climate Variability and Water Resource Management in the Southeast, hosted by Vanderbilt University, will discuss ways to promote cooperation between these groups to help protect and improve the environment and public health; better manage urban development; and mitigate the impact of natural disasters.

"By bringing together climate researchers with those who are most affected by our changing climate, we hope to share our current knowledge and predictive capabilities and define additional areas of research that will allow us to better understand how the changing climate is impacting the Southeast," said Dr. Ron Greenwood, manager of the Global Hydrology and Climate Center at the Marshall Center

"We hope to evaluate the impact that our varying climate has on the quality of drinking water, ground and surface water contamination, changes in crop patterns, waste management, transportation, land use, population, urban air quality and high-energy demands," Greenwood said.

"As we are now beginning to understand and predict how rainfall and temperature will vary from year to year, farmers, utility planners and other natural resource managers in the Southeast could reap significant economic benefits depending on their ability to use these predictions effectively," said Dr. Ron Ritschard, a climate researcher at the Global Hydrology and Climate Center. "An improved understanding of our changing climate could also allow us to better prepare for hurricanes, floods and tornadoes — saving lives and property."

The Southeastern region includes the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. The workshop is sponsored by NASA's Mission to Planet Earth enterprise, the U.S. Geological Survey and the National Oceanic and Atmospheric Administration.

NASA Scholarships Awarded

The Board of Directors of the NASA College Scholarship Fund, Inc., has announced that Virginia Ann Miller; Laila L. Hlass; and Christine Kanemori Andres, of the Stennis Space Center; Ron Alterovitz of Lewis Research Center; and Sucharit Suresh Joshi of Langley Research Center, have been selected to receive the five 1997-1998 scholarship awards.

Neeklaksh Kumar Varshney, son of Marshall employee Shashi Prabha Varshney, was one of the 1996-1997 recipients of the scholarship and is pursuing a degree in medicine at the University of Alabama in Birmingham (UAB).

The NASA College Scholarship Fund, Inc., Board of Directors has determined that five scholarships will be awarded again next year. Each scholarship will be renewable annually for a maximum of $8,000 over six calendar years.

Employee Ads

Miscellaneous

★ Minnkota TurboPro 812, Autopilot trolling motor 42 lbs. thrust 50" shaft $475, less than 20 hrs. 922-1169
★ Nice parachute used once, never opened, slightly stained. 881-3342
★ 22 ft. Winnebago MH, new diesel, refrigerator, interior, CD; also generator, TV, VCR $14,500 o.b.o. 461-8721
★ Speakers set of four Sony surround sound $350. 232-3305
★ Assorted railroad ties $20; aqua blue bathroom sink with matching 51" long countertop $20. 536-1114
★ Little Mountain Marina membership on Lake Guntersville. Cabins, camping, boating, fishing, etc. Make offer. 881-0645
★ Craftsman 10" radial arm saw $300 or best offer. 881-8633
★ LeBra front cover for Eagle, Talon, Eclipse with pop-up headlights $35. 837-4136
★ Picket fence with cemented posts 72 ft. $110. 464-9408
★ Golden Retriever puppies, AKC registered $300. 837-2461
★ Star Trek boxed collector's set Barbie/Ken, classic Trek uniforms, accessories, unopened, $40. 722-9407
★ Feather sofa with Sheraton legs; antique oak spinning wheel; Piano Acrosonic solid mahogany w/bench. 533-6384
★ Sears 2/3 HP 13" floor model drill press $150; Sears 5 HP 10" radial arm saw $300; Sears 3 1/2 HP lawn edger $110. 883-5543
★ MacIntosh LCII 8/80 MB with extended keyboard and mouse $185. 880-0881
★ Lightweight (alum. etc.) road or multitrack bide. (Trek, Cannondale etc.) 881-9426
★ Beanie babies! Garcia $50; current Beanies $12. 837-0037

Vehicles

★ 1992 Astro extended van, all-wheel drive, anti-lock, LT option, towing package, 66K miles $11,625. 837-6109
★ 1984 Toyota Celica, 5-speed, 108K miles, one owner $1,700. 464-9408
★ 1984 Toyota pick-up longbed camper shell, 5-speed, 132K miles $1,700. 881-0786
★ 1992 GMC Safari extended van, ABS brakes, luggage rack, seven passenger, 117K miles $9,000. 890-0896

Vehicles

★ 1992 Honda Accord LX, black, 4-door, import auto, 240K miles $5,000. 882-0064
★ 1995 Toyota Tacoma LX, extra cab, 4-cyl., 5-speed, air, cruise, camper, 51K miles $11,900. 883-2609
★ 1987 Toyota Camry, 5-speed, man., a/c, am/fm cass., 40K miles $4,200. 539-7855
★ 1989 Isuzu trooper, 4X4, 5-speed $5,495. 837-4136

Found

★ Microwave found in Building 4649, call 4-4758 to identify.

Center Announcements

☛ ***MOO—*** The Management Operations Office retirees will meet for breakfast/lunch on June 26 (4th Thursday each month) at the Cracker Barrel in Madison at 10 a.m. In addition to retirees, all present or former MOO employees are welcome. Call 539-0042 if you have any questions.

☛ ***June Bloodmobile Visit—***The American Red Cross will be at Building 4752 on June 20, 8 a.m. to 1:30 p.m., for the monthly Marshall Bloodmobile visit. By adhering to the following schedule, long waiting lines can be avoided: T-Z, 8 a.m.; Q-S, 8:30 a.m.; M-P, 9 a.m.; I-L, 9:30 a.m.; F-H, 10 a.m.; C-E, 10:30 a.m.; and A-B, 11 a.m. Marshall employees who serve as blood donors without compensation will be authorized 4 hours of excused absence for this purpose. A longer period may be authorized only when required for recuperation. Contractor personnel must comply with the policy of their respective companies.

☛ ***MESA—***The Marshall Engineers and Scientists Association, IFPTE Local 27 will be held June 19 at 11:30 a.m. in Bldg. 4471, Room C105. Refreshments will be served and all members are invited.

☛ ***Toastmasters—*** Redstone Toastmasters International will meet every Tuesday at 6 p.m. in the Morrison's Cafeteria in Madison Square Mall. For more information call 461-0476.

☛ ***Lecture —*** Dr. Robert L. Forward, consulting scientist, future technologist, lecturer and science fact and science fiction writer, will speak on the "Visions of the Ultimate Journey," June 20 at 1 p.m. in Morris Auditorium. Forward will present his inspirational lecture showing that travel to the stars within a human lifetime is no longer impossible but merely "extremely difficult." For more information contact Les Johnson at 4-0614.

☛ ***MARS—*** The results of the Mars fishing club tournament held June 7 on Lake Guntersville are as follows: 1st - Ross Evans/Charles Kilgore, 3 fish at 7.21 lbs.; 2nd - Charles Cothran/John Harbison 3 fish at 7.11 lbs.; 3rd - Alex Rawleigh/Charles Nola 3 fish at 5.85 lbs.; Big fish - Charles Kilgore, 3.52 lbs. The next tournament is on the night of June 20. For more information call Don McQueen at 4-9073 or Ross Evans at 5-2305.

☛ ***Procurement Seminar—*** The seminar "Socio-Economic Procurement as a Business Imperative" will be held June 26, 8:30 a.m. to 4 p.m., in Bldg. 4200, Room P110. The presenter will be Reginald Williams from Procurement Resources, Inc., Atlanta, GA. The seminar will focus on the benefits and value of Supplier Diversity. The learning process will be focused on NASA systems and procedures. Please call Stanley McCall (4-0254) for registration.

☛ ***Auction —*** A local auction of government surplus property will be held at 8 a.m., June 24 at 7405 Warehouse Rd., Redstone Arsenal. Inspection is June 19-23 at 8 a.m. to 3 p.m. To view materials for sale or for further information report to Bldg. 7435, Chestnut Rd., Redstone Arsenal or call Elizabeth Couch at 842-9474 or Donna Davis at 842-2570.

☛ ***STOP ABUSE: —*** Aware of waste, fraud or abuse? Telephonically contact the MSFC Office of Inspector General at 4-9188 or send complaints to mail stop M-DI. Confidentiality will be maintained.

☛ ***Huntsville L5 Society —*** Hosting a presentation June 25, from 7 to 8:30 p.m. Topic is "Solar Termal Propulsion Utilizing Polyimid Fresnel Lenses," by Rodney Bradford, president of United Applied Technologies, in the Huntsville-Madison County Public Library auditorium, 915 Monroe Ave., free, public welcomed , 461-3064 or 721-1083.

☛ ***Toastmasters International —*** Toastmasters International will have a lunch meeting each Tuesday from 11:30 a.m. to 12:30 p.m. in Bldg. 4610, cafeteria conference room.

Job Opportunities

CPP 97-36-CV, AST, Mission Operations Integration, GS-801-14, Flight Projects Office, Space Station Utilization Ofc, EXPRESS Rack Ofc. Closes June 23.

MARSHALL STAR

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